Microsoft® Windows® 2000

Market Bulletin

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Upgrading Incrementally to Windows 2000

The Microsoft Windows 2000 operating system supports a variety of incremental deployment options to meet individual customer needs. The deployment options for Windows 2000 range from simple deployment of Windows 2000 Professional, to adding new application servers in your existing environment, to deploying the advanced capabilities provided by the Windows 2000 Active Directory™ service. You can choose which features are appropriate for your organization, and plan a deployment that makes sense.

You can start by upgrading desktops to Windows 2000 Professional, which allows your users to quickly begin realizing the benefits of Windows 2000. You can move on to installing Windows 2000 Server quickly and easily in your existing Windows NT® 4.0 domain environment, focusing for example on application servers and file and print servers.

Ultimately, you will want to upgrade your Windows NT 4.0 domains to the new Windows 2000 domain architecture so you can take advantage of the most exciting new features, such as Active Directory. While offering many direct benefits, Active Directory is also required to use many of the advanced features of Windows 2000. If you have a simple environment--one comprised of a single Windows NT 4.0 domain for example--you should be able to upgrade to Active Directory quickly and easily using the powerful wizards that come with Windows 2000 Server. If your environment is more complex, more planning will be required, but Microsoft provides advanced tools to make the task simpler than you may think.

At each step of the way you can take advantage of the Windows 2000 features that you find valuable. Work at your own pace, deploying your new operating system on an as-needed basis for desktops and servers.

WINDOWS 2000 PROFESSIONAL

Microsoft designed Windows 2000 Professional to be quickly and easily deployed in your existing environment. You can get started with one system and gradually begin adding new Windows 2000 Professional desktops. Windows 2000 Professional supports a wide variety of upgrade options for your existing personal computers. Deploying Windows 2000 Professional on your desktops allows you to take advantage of a more reliable, secure, and manageable operating system.

For more information on deploying Windows 2000 Professional, see Chapter 25 of the Deployment Planning Guide.

WINDOWS 2000 SERVER

Windows 2000 Server delivers vast array of new features and capabilities that you can take advantage of immediately. One of the main advantages of upgrading to Windows 2000 Server is having Active Directory. However, it’s not necessary to install Active Directory to obtain many of the benefits of Windows 2000 Server. You can achieve significant reliability and manageability benefits by installing Windows 2000 Server on the member servers in your Windows NT 4.0 network. Member servers are the machines that you use for hosting file, print, web, application, communications and infrastructure server functions. In fact, the only servers you have in your network that are not member servers are your domain controllers. See the chart below for highlights of the Windows 2000 features available when you deploy without implementing Active Directory.

Server Type	Windows 2000 Features Available
File and Print	Disk Quota Management Dynamic Volume Management Hierarchical Storage Management Internet Printing
Web and Applications	IIS 5.0, XML COM+Terminal Services High availability features
Communications	Virtual Private Networking Remote Access Services IP Telephony RADIUS Authentication and Accounting
Infrastructure	Remote Management Public Key Infrastructure System Preparation Tool

You can upgrade one, a few, or all of your member servers at a given time. Deploying Windows 2000 in an existing Windows NT 4.0-based environment is a straightforward process that provides immediate benefits. The deployment will also help you gain valuable experience with Windows 2000, which can prepare you for planning for and deploying Active Directory.

For more information on upgrading member servers, see Chapter 15 of the Deployment Planning Guide.

THE WINDOWS 2000 ACTIVE DIRECTORY

Windows 2000 Server and the Active Directory service deliver on the promise to integrate applications, users, data and other resources into a unified environment. As an increasing number of distributed applications take advantage of Active Directory, you can benefit by not having to implement and manage application-specific directory services. The results are simplified management, stronger security, and improved interoperability.

Having a well thought-out Active Directory plan is essential to an effective deployment. Investing time in the planning phase will help you avoid spending time and money in the future reworking structures that you have already put in place. To develop your Active Directory strategy, follow the sequence of planning steps in Chapter 9 of the Deployment Planning Guide.

At a high level, in order to take advantage of Active Directory you begin by upgrading your Windows NT 4.0-based Primary Domain Controller (PDC) to Windows 2000 Server using a wizard-driven process. After you've upgraded the PDC you can immediately begin to take advantage of many of the benefits provided by the Active Directory service such as Intellimirror™ management technologies for desktop management and delegation of administration.

Windows 2000 Active Directory provides excellent backwards compatibility with your existing Windows NT-based environment. For instance, the rest of your Backup Domain Controllers (BDCs) can continue to run Windows NT. And, the domain controllers that you have upgraded will continue to support your existing clients, such as those based on Windows 9x and Windows NT.

You can stage your Active Directory deployment to match your upgrade plans. You can gradually upgrade additional backup domain controllers to Windows 2000 Active Directory domain controllers. Perhaps your plan calls for rolling out Windows 2000 Professional over a matter of months. You can make the change gradually; in parallel with your server upgrade plans. And, using techniques and tools that Microsoft gives you, you can minimize the risks of upgrade--returning your domain to Windows NT 4.0 operation if needed.

ADVANCED DEPLOYMENT OF ACTIVE DIRECTORY

The full functionality of Windows 2000 Server and Active Directory becomes available only once you have performed a successful domain upgrade by upgradingd all of your domain controllers to Windows 2000. Limits, created by the need to maintain downward compatibility with the Windows NT 4.0 domain controllers for example, go away. New features that depend on Windows 2000 Server being on all of your domain controllers become active. In fact, some of the benefits of Windows 2000 Server and Active Directory are so compelling; you may want to consider a more sophisticated processed called domain restructuring.

Domain upgrade is a process designed to maintain as much of your current environment as possible, including your existing domain structure. Domain restructuring, on the other hand, is a process designed to allow you to redesign your domain structure to meet the needs of your organization. Though domain restructure can result in any number of outcomes, typically the result is some rationalization of the current domain structure with fewer larger domains.

Restructuring is appropriate in three sets of circumstances:

- Post upgrade--The most common time for organizations to perform domain restructuring will be in the second phase of migration to Windows 2000, following an earlier upgrade. If the upgrade covered the simpler migration cases, restructuring will probably be aimed at reworking parts of the domain structure to reduce complexity, or to consolidate Windows NT-based resource domains into the new Active Directory structure.
- Instead of upgrade--Some organizations might feel that they cannot afford to jeopardize the stability of the current production environment during migration. In such cases the easiest migration path might be to design and build an ideal Windows 2000 Active Directory-based environment separate from the current production environment.
- Post migration--In this case, restructuring takes place as part of general domain redesign within a Windows 2000-based environment. This might occur when for some reason--organizational change, mergers or acquisitions--the current structure becomes inappropriate.

The major reason for restructuring is typically to take advantage of Windows 2000 features that allow you to better structure your domains to reflect the requirements of your organization, such as:

- Greater scalability. With the improved scalability of Active Directory--scaling to literally millions of user accounts--you could restructure your current Windows NT domains into fewer, larger Windows 2000 Active Directory domains.
- Finer granularity of administration. In many instances, consolidating Windows NT resource domains into newly introduced Active Directory Organizational Units will be a more appropriate method for delegating administration.
- Simpler administration. To allow delegation or perhaps as the result of an organizational change such as a merger or acquisition, your domain structure might be connected by a complex mesh of trusts. You could redesign your domain tree and benefit from fewer bi-directional, transitive trust relationships.

No matter which restructuring option you choose, Microsoft provides the Active Directory Migration Tool (ADMT) to simplify the process. Further, ADMT makes it possible to maintain existing domain structures in parallel to a restructured environment to ensure that you can quickly revert to your prior configuration in the event that any stage of the restructuring does not produce the results you were looking for.

MORE INFORMATION

Visit http://www.microsoft.com/windows2000/default.asp for more information on Windows 2000 and the Active Directory service.

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